1. A process for forming a stress release contacting system in an integrated circuit, comprising the sequential steps of:

(a) providing a silicon wafer containing a completed integrated circuit and having an upper surface on which are contact pads connected to said integrated circuit;

(b) forming first metal posts, attached one-on-one to the contact pads and extending vertically upwards from the contact pads;

(c) placing a leveling plate on said metal posts;

(d) through application of force to said leveling plate at an elevated temperature, causing the posts to tilt at an angle relative to said wafer upper surface and to point in a direction;

(e) filling all empty space between the leveling plate and the wafer surface with an elastomer while leaving all ends of the posts uncovered;

(f) removing the leveling plate;

(g) forming second metal posts that attach one-on-one to said uncovered ends;

(h placing a leveling plate on said metal posts;

(i) through application of force to said leveling plate at an elevated temperature, causing the posts to tilt at said angle relative to said wafer upper surface and to point in a direction that is orthogonal to the direction of the most recently formed posts;

(j) repeating steps (e) through (i) a number of times;

(k) filling all empty space between the leveling plate and the wafer surface with an elastomer while leaving all ends of the posts uncovered;

(l) removing the leveling plate;

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(m) forming pads of underlayer barrier metal over all uncovered ends of said posts; and

(n) forming solder balls that extend upwards and are attached to the underlayer barrier metal pads.

2. The process of claim 1 wherein the step of forming the metal posts further comprises:

depositing a blanket layer of metal;

coating said metal layer with photoresist;

processing the photoresist to form a mask that is present everywhere except for holes over the contact pads;

by means of electroplating, filling said holes with the metal;

removing the photoresist, thereby leaving metal posts; and

removing the blanket layer.

3. The process of claim 1 wherein said elevated temperature is between about 100 and 400 °C .

4. The process of claim 1 wherein said tilt angle is between about 15 and 75 degrees.

5. The process of claim 1 wherein the step of filling with elastomer further comprises: after the leveling plate has cooled down, placing the wafer in a vacuum having a

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pressure around 0.1 torr;

dispensing elastomer along all edges of the wafer; and

returning the pressure to atmospheric, thereby causing the elastomer to be sucked into said empty space.

6. The process of claim 1 wherein the posts have a diameter between about 5 and 100 microns.

7. The process of claim 1 wherein the posts have a length between about 5 and 200 microns.

8. The process of claim 1 wherein the number of times that steps (e) through (i) are repeated is between 0 and about 10 times .

9. The process of claim 1 wherein the elastomer is selected from the group consisting of silicone elastomer, polyimides and benzocyclobutene.

10. The process of claim 1 wherein the metal posts are selected from the group consisting of gold, silver, copper, solder, and aluminum.

11. The process of claim 1 further comprising, between steps (f) and (g):

depositing a layer of joint strengthening metal on the elastomer; and

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patterning and etching said layer to form joint strengthening discs symmetrically disposed on and around said uncovered ends.

12. A low stress contacting system for an integrated circuit, comprising:

a silicon wafer containing a completed integrated circuit and having an upper surface on which there is contact pad connected to said integrated circuit;

a number of metal rods, including a first rod and a last rod, attached end-to-end to each other in the form of an orthogonal spiral;

all rods being tilted at an angle relative to said upper surface;

the first rod being attached to a contact pad;

the last rod being attached to a solder ball;

elastomer, covering said upper surface and extending upwards therefrom to fully encapsulate all the rods while leaving said solder ball uncovered; and

an underlayer barrier metal pad between the solder ball and the last rod.

13. The contacting system of claim 12 wherein the elastomer is selected from the group consisting of silicone elastomer, polyimides and benzocyclobutene.

14. The contacting system of claim 12 further comprising joint strengthening discs between the rods.

15. The contacting system of claim 12 wherein said number of rods is between 2 and

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about 10.

16. The contacting system of claim 12 wherein the angle at which the rods are tilted is between about 15 and 75 degrees.

17. The contacting system of claim 12 wherein the rod has a diameter between about 5 and 100 microns and a length between about 5 and 200 microns.

18. The contacting system of claim 12 wherein the solder balls have a diameter between about 10 and 500 microns.

19. The contacting system of claim 12 wherein the solder balls are selected from the group consisting of eutectic solder, high temperature solders, and no lead solders.

20. The contacting system of claim 12 wherein the solder balls are spaced, on average, a distance of between about 10 and 1,000 microns apart.